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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SHERMAN, STEPHEN G

ART UNIT	PAPER NUMBER
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2629

NOTIFICATION DATE	DELIVERY MODE
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05/17/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/501,136

Applicant(s)

BURSTROM ET AL.

Examiner

Stephen G. Sherman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 25-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the amendment filed 25 April 2007. Claims 1-36 are pending, of which claims 25-36 have been withdrawn from consideration.

Response to Arguments

2. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 23 recites the limitation "the contacting opening". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 6, 10-12, 14-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al. (US 3,528,295).

Regarding claim 1, Johnson et al. disclose an electronic pen comprising a body (Figure 1, items 13 and 15, where column 2, lines 66-69 explain that the housing consists of the tip-end section 13 and a rear housing section 15.), a pen stem slidably received in said body (Figure 1, item 27, where column 2, lines 69-72 explain that there is a marking tip support member 27 which is slideably received in recess 17 and 19 of housing sections 17 and 19.), and a sensor arrangement (Figure 1 and column 3, lines 22-39 explain that there is a sensor arrangement.) whose electrical resistance varies in accordance with the amount of force applied to the sensor arrangement via the pen stem (Column 4, lines 45-59 and column 4, line 73 to column 5, line 16 explain that as shown in Figure 5, the resistance of the device changes as pressure is applied to the tip of the pen.), characterized in that the sensor arrangement is designed as a modular unit with an electrode element and a closure element that are mutually arranged in an essentially electrically insulated initial position (Figure 2A shows the state of an initial position, i.e. when no pressure is applied to the tip of the pen. In this position, the element 51 is electrically insulated from the elements 53, 55 and 56.),

that one of said elements is arranged to receive said force from the pen stem and thereby be urged to an activated position in electrical contact with the other element (Figure 2B shows that item 51 is able to receive force from the pen stem 27 such that it is pushed into contact with the elements 53 and 55.), and

that, on relaxation of said force, the force-receiving element is arranged to automatically spring from the activated position back to the initial position (Column 3, lines 15-21 explain that a spring can be employed to bias the pen tip in an initial position. This means that the pen stem 27 will therefore be biased in an initial position, as will item 51, where the initial position is shown in Figure 2A. Thus when a user picks the device up from writing, the elements will revert from the position shown in Figure 2B back to the position shown in Figure 2A. Refer also to column 3, lines 46-53.).

Regarding claim 3, Johnson et al. disclose the electronic pen as set forth in claim 1, wherein the force-receiving element is cantilevered in said sensor arrangement (Figures 1 and 2A-2B).

Regarding claim 6, Johnson et al. disclose the electronic pen as set forth in claim 1, wherein the closure element is the force-receiving element (Figure 1, item 53, the strain gauge, is the force-receiving element.).

Regarding claim 10, Johnson et al. disclose the electronic pen as set forth in claim 1, wherein the closure element includes a semiconducting material (Figure 1

shows strain gauge 53 and column 4, line 69 to column 5, line 2 explain that the strain gauge provides waveforms for various forces exerted by the pen, meaning it is possible to obtain an electrical signal, which means that the material would need to be semi-conductive material.).

Regarding claim 11, Johnson et al. disclose the electronic pen as set forth in claim 1, wherein the closure element includes a pressure-sensitive material (Column 4, lines 45-59 explain that the strain gauge 53 is provided which can receive force or pressure, which means that it contains a pressure-sensitive material.).

Regarding claim 12, Johnson et al. disclose the electronic pen as set forth in claim 1, further comprising a force-transmitting element which is attached to one end of the pen stem and has a surface for cooperation with the force-receiving element (Figure 1 shows item 51 attached to one end of the pen stem 27 and has a surface for contacting the strain gauge 53 as shown in Figure 2B.).

Regarding claim 14, Johnson et al. disclose the electronic pen as set forth in claim 12, wherein the force-transmitting element defines a blind hole which is adapted to receive said one end of the pen stem and whose peripheral wall has at least one longitudinal groove (Figures 1 and 2A show that element 51 defines a hole shown in Figure 3. The hole 33,43 receives one end of the pen stem 27 as shown in Figure 2A which also constitutes a "longitudinal groove").

Regarding claim 15, Johnson et al. disclose the electronic pen as set forth in claim 14, wherein the force-transmitting element comprises an insert which is arranged over the end wall of the blind hole and is made of a hard and durable material (Figure 1 and 3 show that element 45 is provided over one end wall of the hole section, where it is inherent that collar portion 45 is made of a hard and durable material such that it would not break during operation of the device.).

Regarding claim 16, Johnson et al. disclose the electronic pen as set forth in claim 15, wherein the insert on its surface facing the blind hole is provided with at least one depression that extends from a central portion of said surface and connects to said longitudinal groove (Figure 3 shows that the collar portion 45 defines the hole that is formed allowing elements 51 and 27 to move. Thus the hole found in the collar portion 45 is a depression and would connect with the longitudinal groove found in portion 39.).

Regarding claim 17, Johnson et al. disclose the electronic pen as set forth in claim 12, further comprising an elongate holder defining a first and a second chamber, wherein the sensor arrangement is mounted in the first chamber and the force-transmitting element is slidably received in the second chamber for longitudinal movement into the first chamber against the spring action of the force-receiving element (Figure 1 shows a first chamber area defined by portions 31, which is where the sensor 53 is located and also there is a second chamber defined by portions 39,45. Figures 2A

and 2B show that element 51 is contained within the second chamber area below the sensor arrangement when the device is not being used, and then during use the element 51 is forced into the sensor chamber.).

Regarding claim 18, Johnson et al. disclose the electronic pen as set forth in claim 17, wherein the holder comprises a lug portion which is formed between the first and second chambers to limit the movement of the force-receiving element away from the other element (Column 4, lines 62-65 explain that the disk shaped member 55 is shaped to conform to the inside diameter of transducer housing 31, meaning that it will limit the movement of the strain gauge 53 away from the other element.).

Regarding claim 19, Johnson et al. disclose the electronic pen as set forth in claim 17, wherein the holder defines a mounting opening which at least partly is defined by flexing sidewall portions that allow insertion of the force-transmitting element into the second chamber and limit its lateral movement therein (Figure 4 shows that the holder has an opening that allows the insertion of element 51 into the transducer chamber.).

Regarding claim 20, Johnson et al. disclose the electronic pen as set forth in claim 17, wherein the holder comprises a guiding element for cooperation with a complementary guiding element on the body (Figure 1 shows that the holder has a guiding element, i.e. a hole, to allow stem 27 to move and that this works with the guiding element of element 41.).

Regarding claim 21, Johnson et al. disclose the electronic pen as set forth in claim 17, wherein the electrode and closure elements are interconnected by means of a web portion, and wherein the web portion is received in a guiding opening defined in a sidewall portion of the first chamber (Figure 4 shows a web portion between the electrode and closure elements thus facilitating their interconnection during operation of the pen, where the web portion shown in Figure 4 is received in the opening 31.).

Regarding claim 22, Johnson et al. disclose the electronic pen as set forth in claim 17, wherein a contacting opening is defined in a sidewall portion of the first chamber, and wherein the electrode element extends from the first chamber, through the contacting opening, into abutment against a contacting surface which is formed on the holder for contacting a circuit board arranged in the pen (Figures 1 and 2A-2B show that there is an opening in which the element 51 extends through, and as shown in Figure 4 there is a contacting opening which allows for the contact between the element 51 and the sensor arrangement, shown in Figure 5, where the electrical features would inherently be on a circuit board.).

Regarding claim 23, Johnson et al. disclose the electronic pen as set forth in claim 21, wherein the contacting opening is arranged opposite to the guiding opening (Figure 4).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (US 3,528,295).

Regarding claim 24, Johnson et al. disclose the electronic pen as set forth in claim 1.

Johnson et al. fail to teach wherein the electrode element comprises a layer of graphite, however, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to provide a layer of graphite to element 51 of Johnson et

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al. because is well known in the art to use graphite as a lubricating device to decrease friction and allow smooth movement of element 51 within the pen device.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (US 3,528,295) in view of Nagai et al. (US 6,104,388).

Regarding claim 5, Johnson et al. disclose the electronic pen as set forth in claim 1.

Johnson et al. fails to teach wherein the sensor arrangement comprises a sheet substrate with an electrode area formed thereon.

Nagai et al. disclose an electronic pen wherein a sensor arrangement comprises a sheet substrate with an electrode area formed thereon (Figures 5a and 5b printed circuit board 5d.).

Therefore, it would have been obvious to “one of ordinary skill” in the art at the time the invention was made to form the sensor arrangement taught by Johnson et al. on a substrate as taught by Nagai et al. in order to provide a simple way to manufacture the sensor arrangement.

Johnson et al. and Nagai et al. fail to teach of the substrate being bent such that a closure area and the electrode area form said closure element and said electrode element, respectively, however, it would have been obvious to “one of ordinary skill” in the art at the time the invention was made to form the elements on a single substrate that is bent because the Applicant has not discloses that doing so provides an

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advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected the Applicant's invention to perform equally well with either the separated arrangement taught by the combination of Johnson et al. and Nagai et al. or the claimed shared substrate arrangement because both perform the same function of allowing the contact between a sensing element and an element moved by force applied to the pen tip.

11. Claims 2, 4, 7-9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (US 3,528,295) in view of Rockwell et al. (US 5,357,062).

Regarding claim 2, Johnson et al. disclose the electronic pen as set forth in claim 1.

Johnson et al. fail to teach wherein the electrode element is integrated with the closure element.

Rockwell et al. disclose of an electronic pen (Figure 3) where a sensor arrangement contains an electrode element and a closure element (Figure 4 shows items 50 and 44 as explained in column 7, lines 3-32) that are integrated with each other (Figure 3 shows that the elements are integrated with each other.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to integrate the electrode and closure elements as taught

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by Rockwell et al. in the electronic pen taught by Johnson et al. in order to provide for a more compact arrangement enabling the conservation of space within the pen housing.

Regarding claim 4, Johnson et al. disclose the electronic pen as set forth in claim 1.

Johnson et al. fail to teach wherein said electrode element and said closure element are essentially planar.

Rockwell et al. disclose of an electronic pen (Figure 3) where a sensor arrangement contains an electrode element and a closure element (Figure 4 shows items 50 and 44 as explained in column 7, lines 3-32) wherein said electrode element and said closure element are essentially planar (Figure 4 shows that items 50 and 40 are essentially planar.).

Therefore it would have been obvious to “one of ordinary skill” in the art at the time the invention was made to make the electrode and closure elements essentially planar as taught by Rockwell et al. in the electronic pen taught by Johnson et al. in order to provide more reliable contacting surfaces for measuring the force signals.

Regarding claim 7, Johnson et al. disclose the electronic pen as set forth in claim 1.

Johnson et al. fail to teach wherein the electrode element comprises two electrically separate conductor paths forming an active surface for cooperation with the closure element.

Rockwell et al. disclose of an electronic pen (Figure 3) where a sensor arrangement contains an electrode element and a closure element (Figure 4 shows items 50 and 44 as explained in column 7, lines 3-32) wherein the electrode element comprises two electrically separate conductor paths forming an active surface for cooperation with the closure element (Figure 4 shows that there are two electrode elements 50 provides with metal contacts 56 which are equally spaced as shown in the figure.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to make the electrode element have two separately conductive paths forming an active surface as taught by Rockwell et al. in the electronic pen taught by Johnson et al. in order to provide the ability to more accurately detect the angular direction of the force applied to the pen.

Regarding claim 8, Johnson et al. and Rockwell et al. disclose the electronic pen as set forth in claim 7.

Rockwell et al. also disclose wherein at least a central surface portion of the active surface has an essentially uniform distribution of said conductor paths (Figure 4 shows that there is an essentially uniform distribution of the two conductor paths.).

Regarding claim 9, Johnson et al. and Rockwell et al. disclose the electronic pen as set forth in claim 7.

Rockwell et al. also disclose wherein the sensor arrangement comprises a spacer of electrically insulating material which, in said activated position, is arranged to at least partly encompass the active surface (Figure 4 and column 7, lines 22-28.).

Regarding claim 13, Johnson et al. disclose the electronic pen as set forth in claim 12.

Johnson et al. fail to teach wherein the force-transmitting element is made of an elastic material.

Rockwell et al. disclose of an electronic pen (Figure 3) where a sensor arrangement contains an electrode element and a closure element (Figure 18 shows items 70 and 64.) wherein a force-transmitting element is made of an elastic material (Column 8, lines 55-59 explain that item 70 is made of flexible rubber.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to make the force-transmitting element taught by Johnson et al. out of elastic material as taught by Rockwell et al. in order to provide a sensor arrangement in which more accurate resistive sensing is possible.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Padula et al. (US 5,581,052) disclose a stylus for use with a digitizer tablet in which a tip element applies pressure to a pressure sensitive resistance element in order to provide writing.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

10 May 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER

